WEST Search History

DATE: Saturday, May 31, 2003

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT,PGPB; PLUR=YES; OP=OR		
L20	L19 and (strontium or barium or color)	4	L20
L19	L16 not l18	40	L19
L18	L16 and gel	5	L18
L17	L16 and l11	0	L17
L16	L15 and (dinitrotoluene or nitromethane or nitropropane or nitrobenzene or nitramine)	45	L16
L15	((149/19.8)!.CCLS.)	206	L15
L14	L12 not l13	2	L14
L13	L12 and plasticizer	4	L13
L12	L11 and ((149/19.8)!.CCLS.)	6	L12
L11	fireworks or flare	26012	L11
L10	L4 same (strontium or barium) adj (nitrate or carbonate)	0	L10
L9	L7 and 102.clas.	0	L9
L8	L7 and 149.clas.	3	L8
L7	L4 and (fireworks or flare)	73	L7
L6	L5 and (fireworks or flare)	0	L6
L5	L4 same binder	31	L5
L4	L1 same gel	11354	L4
L3	L2 and color	23	L3
L2	L1 and fireworks	38	L2
L1	nitrocellulose	33347	L1

END OF SEARCH HISTORY

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L3: Entry 7 of 23 File: USPT Mar 11, 2003

DOCUMENT-IDENTIFIER: US 6530327 B2
TITLE: Method and apparatus for burning pyrotechnic compositions

Brief Summary Text (2):
The present invention relates to devices and methods for burning pyrotechnic compositions and more particularly to firework devices that rely on propulsion to produce colored flame displays.

Brief Summary Text (4):
The type of pyrotechnic devices for entertainment purposes are numerous, but most generally consist of flammable compositions that burn to produce colored flames or provide propulsion for colored flames and/or sparks. Some examples are lances, which produce a colored flame only and are typically used in large sets or arrays to produce figures (e.g. flags) or letters or words. Other devices known to the pyrotechnics industry hare "flares," which produce an effect comparable to lances, but are generally larger in size. The devices called "waterfalls" burn with or without colored flames and generate a large cascade of burning metal sparks. Color-producing pellets, referred to as "stars," are employed in "shells" or "roman candles" or "star mines" and often contain stars in multiple amounts. Typically black powder is used to ignite and propel the stars out of such devices.

Brief Summary Text (8):
As a result, a device with cleaner burning characteristics would require the use of less metallic flame colorant and consequently result in a lower smoke-producing pyrotechnic device. In addition, the efficacy of using low smoke producing pyrotechnic compositions as disclosed in related U.S. patent application Ser. No. 09/833,874 entitled "Low-Smoke Nitroguanidine and Nitrocellulose Based Pyrotechnic Compositions", which is incorporated herein by reference, would be enhanced, as lesser amounts of flame colorants are used in such low smoke producing compositions.

CLAIMS:

7. The pyrotechnic device of claim 1, wherein the fuel comprises nitroguanidine and nitrocellulose.

18. The method of claim 10, wherein the combustible material comprises nitroguanidine and nitrocellulose.

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Search Results -

Terms	Documents
L4 same (strontium or barium) adj (nitrate or carbonate)	0

Database: US Patents Full-Text Database; US Pre-Grant Publication Full-Text Database; JPO Abstracts Database; EPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Search: L10

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L1	nitrocellulose	33347	L1